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Figure 1

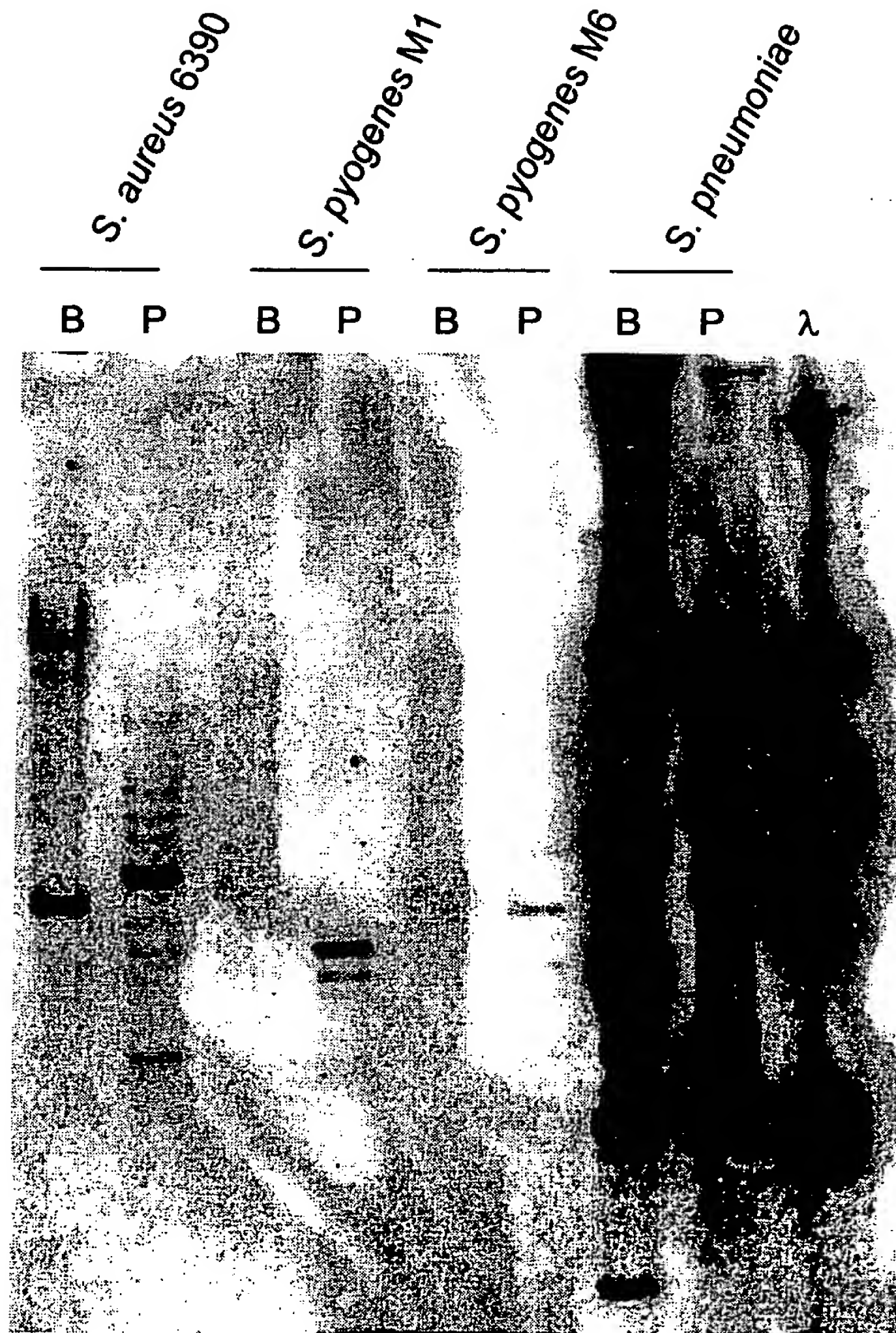




Figure 2(a)

	10	20	30	
1	V K K T Y G Y - I G S V A A I L L A T H I G S Y Q L G K H H	Gas36.pro		
1	V K K T Y G Y - I G S V A A I L L A T H I G S Y Q L G K H H	Gbs36.PRO		
1	M K I N K K Y L V G S A A A L I L S - - V C S Y E L G L Y Q	Pneumo Sp36.PRO		
	40	50	60	
30	M G S A T K D N Q I A Y I D D S K G K A K A P K T N K T M D	Gas36.pro		
30	M G L A T K D N Q I A Y I D D S K G K V K A P K T N K T M D	Gbs36.PRO		
29	A R T V K E N N R V S Y I D G K Q A T Q K T - - E N L T P D	Pneumo Sp36.PRO		
	70	80	90	
60	Q I S A E E G I S A E Q I V V K I T D Q G Y V T S H G D H Y	Gas36.pro		
60	Q I S A E E G I S A E Q I V V K I T D Q G Y V T S H G D H Y	Gbs36.PRO		
57	E V S K R E G I N A E Q I V I K I T D Q G Y V T S H G D H Y	Pneumo Sp36.PRO		
	100	110	120	
90	H F Y N G K V P Y D A I I S E E L L M T D P N Y R F K Q S D	Gas36.pro		
90	H F Y N G K V P Y D A I I S E E L L M T D P N Y H F K Q S D	Gbs36.PRO		
87	H Y Y N G K V P Y D A I I S E E L L M K D P N Y K L K D E D	Pneumo Sp36.PRO		
	130	140	150	
120	V I N E I L D G Y V I K V N G N Y Y V Y L K P G S K R K N I	Gas36.pro		
120	V I N E I L D G Y V I K V N G N Y Y V Y L K P G S K R K N I	Gbs36.PRO		
117	I V N E V K G G Y V I K V D G K Y Y V Y L K D A A H A D N V	Pneumo Sp36.PRO		
	160	170	180	
150	R T K Q Q I A E Q V A K G T K E A K E K G L A Q V A H L S K	Gas36.pro		
150	R T K Q Q I A E Q V A K G T K E A K E K G L A Q V A H L S K	Gbs36.PRO		
147	R T K E E I N R Q - K Q E H S Q H R E G G T P R - - - - -	Pneumo Sp36.PRO		
	190	200	210	
180	E E V A A V N E A K R Q G R Y T T D D G Y I F S P T D I I D	Gas36.pro		
180	E E V A A V N E A K R Q G R Y T T D D G Y I F S P T D I I D	Gbs36.PRO		
170	- N D G A V A L A R S Q G R Y T T D D G Y I F N A S D I I E	Pneumo Sp36.PRO		
	220	230	240	
210	D L G D A Y L V P H G N H Y H Y I P K K D L S P S E L A A A	Gas36.pro		
210	D L G D A Y L V P H G N H Y H Y I P K K D L S P S E L A A A	Gbs36.PRO		
199	D T G D A Y I V P H G D H Y H Y I P K N E L S A S E L A A A	Pneumo Sp36.PRO		
	250	260	270	
240	Q A Y W S Q K Q G R G A R P S D Y R P T P A P A P G R R K A	Gas36.pro		
240	Q A Y W S Q K Q G R G A R P S D Y R P T P A - - P G R R K A	Gbs36.PRO		
229	E A F L S G R - G N L S N S R T Y R R - Q N S D N T S R T N	Pneumo Sp36.PRO		
	280	290	300	
270	P I P D V T P N P G Q G H Q P D N G G Y H P A P P R P N D A	Gas36.pro		
268	P I P D V T P N P G Q G H Q P D N G G Y H P A P P R P N D A	Gbs36.PRO		
257	W V P S V S - - - - - N P G T T N T N T S	Pneumo Sp36.PRO		
	310	320	330	
300	S Q N K H Q R D E F K G K T F K E L L D Q L H R L D L K Y R	Gas36.pro		
298	S Q N K H Q R D E F K G K T F K E L L D Q L H R L D L K Y R	Gbs36.PRO		
273	N N S N T N S Q A S Q S N D I D S L L K Q L Y K L P L S Q R	Pneumo Sp36.PRO		



Figure 2(b)

	340	350	360	
330	H V E E D G L I F E P T Q V I K S N A F G Y V V P H G D H Y			Gas36.pro
328	H V E E D G L I F E P T Q V I K S N A F G Y V V P H G D H Y			Gbs36.PRO
303	H V E S D G L V F D P A Q I T S R T A R G V A V P H G D H Y			Pneumo Sp36.PRO
	370	380	390	
360	H I I P R S Q L S P L E M E L A D - - - R Y L A G Q - - -			Gas36.pro
358	H I I P R S Q L S P L E M E L A D - - - R Y L A G Q - - -			Gbs36.PRO
333	H F I P Y S Q M S E L E E R I A R I I P L R Y R S N H W V P			Pneumo Sp36.PRO
	400	410	420	
383	T E D D D S G S D H S K P S D K E V T H T F L G H R I K A Y			Gas36.pro
381	T D D N D S G S D H S K P S D K E V T H T F L G H R I K A Y			Gbs36.PRO
363	D S R P E Q P S P Q P T P E P S P G P Q P A P N L K I D S N			Pneumo Sp36.PRO
	430	440	450	
413	G K G L D G K P Y D T S D A Y V F S K E S I H S - V D K S G			Gas36.pro
411	G K G L D G K P Y D T S D A Y V F S K E S I H S - V D K S G			Gbs36.PRO
393	S S L V S Q L V R K V G E G Y V F E E K G I S R Y V F A K D			Pneumo Sp36.PRO
	460	470	480	
442	V T A K H G D H F H Y - I G F G E L E Q Y E L D E V A N W V			Gas36.pro
440	V T A K H G D H F H Y - I G F G E L E Q Y E L D E V A N W V			Gbs36.PRO
423	L P S E T V K N L E S K L S K Q E S V S H T L T A K K E N V			Pneumo Sp36.PRO
	490	500	510	
471	K A K G Q A - - D E L A A A L D Q E O G K E K P L F D T K K			Gas36.pro
469	K A K G Q A - - D E L V A A L D Q E O G K E K P L F D T K K			Gbs36.PRO
453	A P R D Q E F Y D K A Y N L L T E A H - - - K A L F E N K G			Pneumo Sp36.PRO
	520	530	540	
499	V S R K V T K D G K V G Y M M P K D G K D Y F Y A R D Q L D			Gas36.pro
497	V S R K V T K D G K V G Y I M P K D G K D Y F Y A R Y Q L D			Gbs36.PRO
480	R N S D F Q A L D K L L E R L N D E S T N - - - K E K L V			Pneumo Sp36.PRO
	550	560	570	
529	L T Q I A F - - - A E Q E L M L K D K K H Y R Y D I V D T			Gas36.pro
527	L T Q I A F - - - A E Q E L M L K D K K H Y R Y D I V D T			Gbs36.PRO
506	D D L L A F L A P I T H P E R L G K P N S Q I E Y T E D E V			Pneumo Sp36.PRO
	580	590	600	
555	G I E P R L A - - - V D V S S L P M H A G N A T Y D T G S S			Gas36.pro
553	G I E P R L A - - - V D V S S L P M H A G N A T Y D T G S S			Gbs36.PRO
536	R I - A Q L A D K Y T T S D G Y I F D E H D I I S D E G D A			Pneumo Sp36.PRO
	610	620	630	
582	F V I P H I D H I H V V P Y S W L T - R D Q I A T I K Y V M			Gas36.pro
580	F V I P H I D H I H V V P Y S W L T - R N Q I A T I K Y V M			Gbs36.PRO
565	Y V T P H M G H S H W I G K D S L S D K E K V A A Q A Y T K			Pneumo Sp36.PRO
	640	650	660	
611	Q H P E V R P - - - D I W S K P G H E E S G S V I P N V T			Gas36.pro
609	Q H P E V R P - - - D V W S K P G H E E S G S V I P N V T			Gbs36.PRO
595	E K G I L P P S P D A D V K A N P T G D S A A A I Y N R V K			Pneumo Sp36.PRO

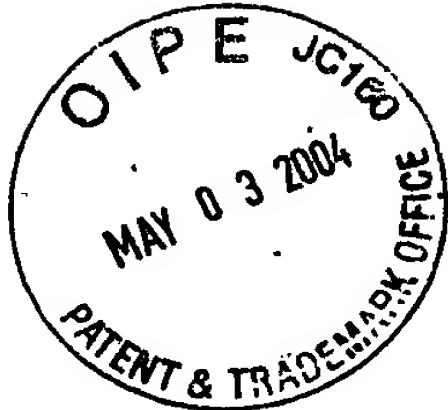


Figure 2(c)

		670		680		690																									
637	P	L	D	K	R	A	G	M	P	N	W	Q	-	I	I	H	S	A	E	E	V	Q	K	A	L	A	E	G	R	F	Gas36.pro
635	P	L	D	K	R	A	G	M	P	N	W	Q	-	I	I	H	S	A	E	E	V	Q	K	A	L	A	E	G	R	F	Gbs36.PRO
625	G	-	E	K	R	I	P	L	V	R	L	P	Y	M	V	E	H	T	V	E	V	K	N	G	-	-	-	-	-	-	Pneumo Sp36.PRO
		700		710		720																									
666	A	T	P	D	G	Y	I	F	D	P	R	D	V	L	A	K	E	T	F	V	W	-	K	D	G	S	F	S	I	P	Gas36.pro
664	A	A	P	D	G	Y	I	F	D	P	R	D	V	L	A	K	E	T	F	V	W	-	K	D	G	S	F	S	I	P	Gbs36.PRO
648	-	-	-	-	N	L	I	I	P	H	K	D	H	Y	H	N	I	K	F	A	W	F	D	D	H	T	Y	K	A	P	Pneumo Sp36.PRO
		730		740		750																									
695	R	A	D	G	S	S	L	R	T	I	-	-	-	-	-	-	-	-	-	N	K	S	D	L	S	Q	A	E	Gas36.pro		
693	R	A	D	G	S	S	L	R	T	I	-	-	-	-	-	-	-	-	-	N	K	S	D	L	S	Q	A	E	Gbs36.PRO		
674	-	-	N	G	Y	T	L	E	D	L	F	A	T	I	K	Y	Y	V	E	H	P	D	E	R	P	H	S	N	D	G	Pneumo Sp36.PRO
		760		770		780																									
714	W	Q	Q	A	Q	E	-	L	L	A	K	K	N	A	G	D	A	T	D	T	D	-	K	P	K	E	K	Q	Q	A	Gas36.pro
712	W	Q	Q	A	Q	E	-	L	L	A	K	K	N	A	G	D	A	T	D	T	D	-	K	P	E	E	K	Q	Q	A	Gbs36.PRO
702	W	G	N	A	S	E	H	V	L	G	K	K	D	H	S	E	D	P	N	K	N	F	K	A	D	E	E	P	V	E	Pneumo Sp36.PRO
		790		800		810																									
742	D	K	S	N	E	N	Q	Q	P	-	-	-	S	E	A	S	K	E	E	E	K	E	S	D	D	F	I	D	S	L	Gas36.pro
740	D	K	S	N	E	N	Q	Q	P	-	-	-	S	E	A	S	K	E	E	-	K	E	S	D	D	F	I	D	S	L	Gbs36.PRO
732	E	T	P	A	E	P	E	V	P	Q	V	E	T	E	K	V	E	A	Q	L	K	E	A	E	V	L	L	A	K	V	Pneumo Sp36.PRO
		820		830		840																									
769	P	D	Y	G	L	D	R	A	T	L	E	D	H	I	N	Q	L	A	Q	K	A	N	I	D	P	K	Y	L	I	F	Gas36.pro
766	P	D	Y	G	L	D	R	A	T	L	E	D	H	I	N	Q	L	A	Q	K	A	N	I	D	P	K	Y	L	I	F	Gbs36.PRO
762	T	D	S	S	L	-	K	A	N	A	T	E	T	L	A	G	L	R	N	N	L	T	L	Q	-	-	-	-	I	M	Pneumo Sp36.PRO
		850		860		870																									
799	Q	P	E	G	V	Q	F	Y	N	K	N	G	E	L	V	T	Y	-	-	-	-	D	I	K	T	L	Q	Q	I	N	Gas36.pro
796	Q	P	E	G	V	Q	F	Y	N	K	N	G	E	L	V	T	Y	-	-	-	-	D	I	K	T	L	Q	Q	I	N	Gbs36.PRO
787	D	N	N	S	I	M	-	-	A	E	A	E	K	L	L	A	L	L	K	G	S	N	P	S	S	V	S	K	E	K	Pneumo Sp36.PRO
		825		822		815																									
825	P	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Gas36.pro
822	P	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Gbs36.PRO
815	I	N	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Pneumo Sp36.PRO

Figure 3

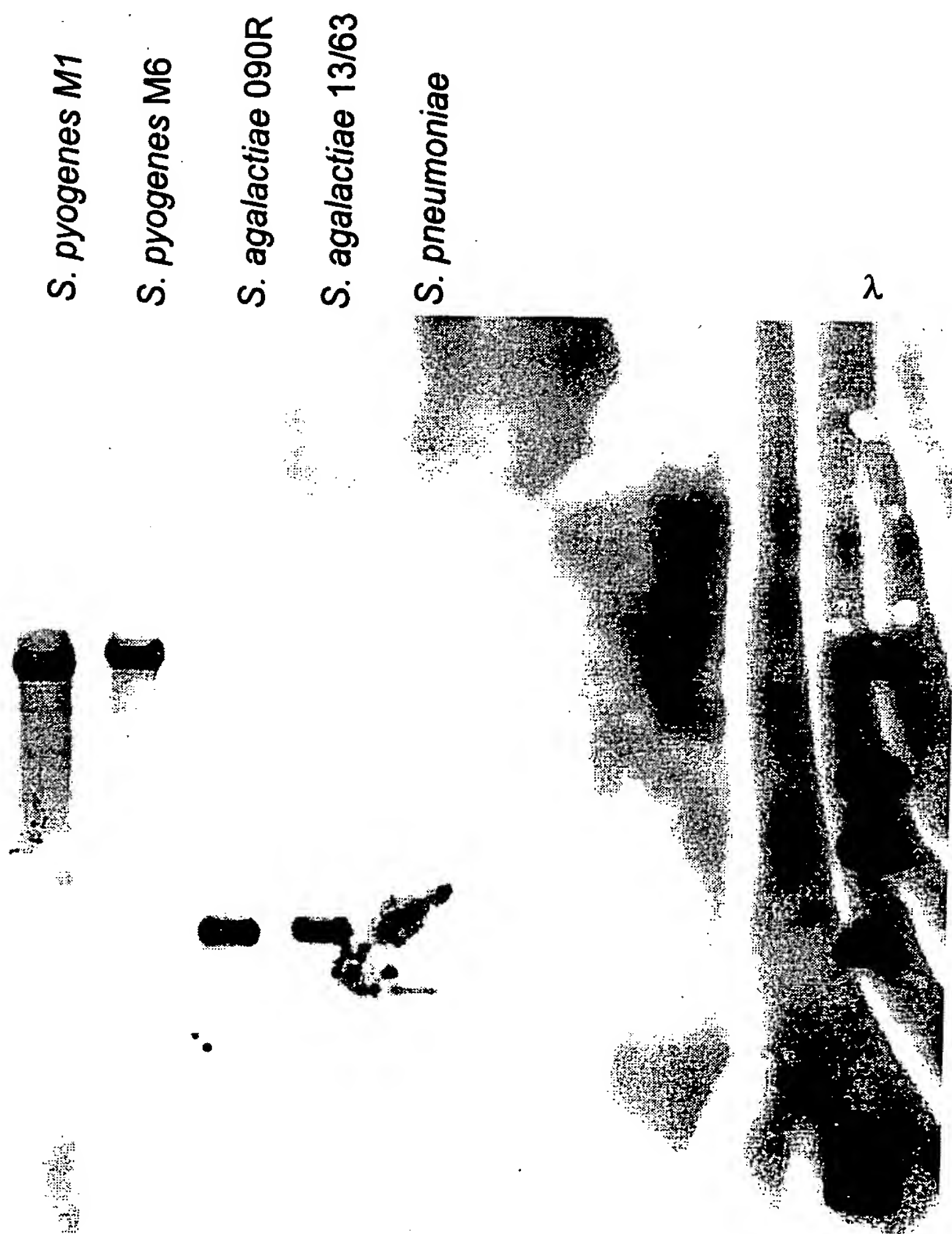
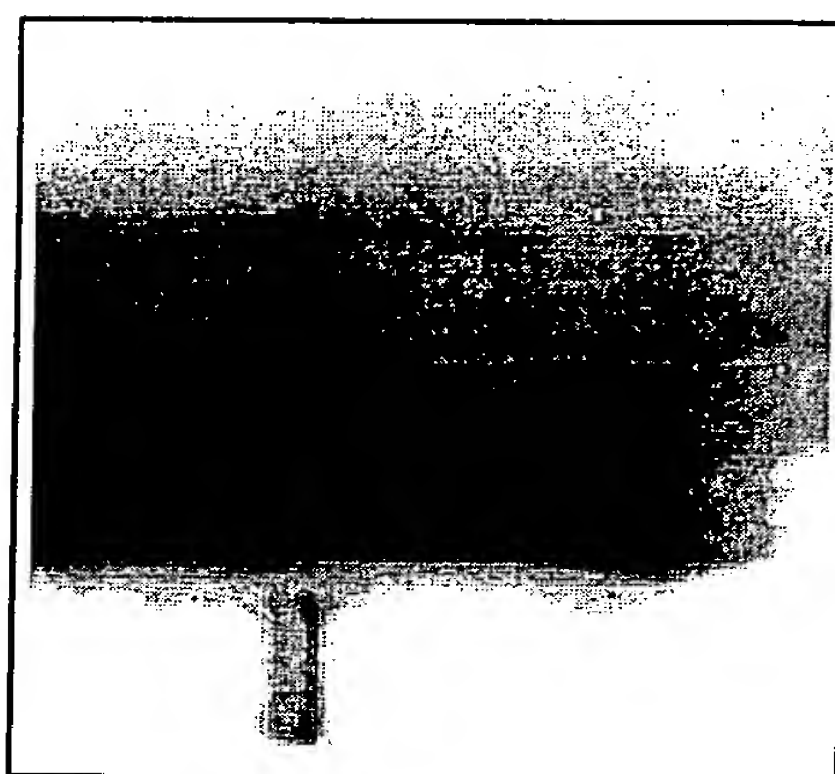




Figure 4



Control
Sp36 GBS
Sp36
SJ2 6b

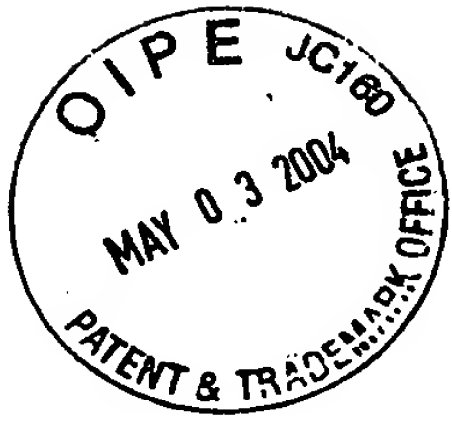


Figure 5A

VKKTYGYIGS VAAILLATHI GSYQLGKHHM GSATKDNQIA YIDDSKGGKAK APKTNKTMDO ISAEEGISAE 70
QIVVKITDQG YVTSHGDHYH FYNGKVPYDA IISEELLMTD PNYRFBKQSDV INEILDGYVI KVNNGNYVYVL 140
KPGSKRKNIR TKQQIAEQVA KGTKEAKEG LAQVAHLSKE EVAAVNEAKR QGRYTTDDGY IFSPTDIIDD 210
LGDAYLVPHG NHYHYIPKCD LSPSELAAAQ AYWSQKQGRG ARPSDYRPTP APAPGRRKAP IPDVTPNPGQ 280
GHQPDNGGYH PAPPRPDAS QNKHQRDEFK GKTFKELLDQ LHRLLDKYRH VEEDGLIFEP TQVIKSNAFG 350
YVVPBGDHYH IIPRSQLSPL EMELADRYLA QOTEDDDSGS DHKPSDKEV THTFLGHRIC AYKGLDGKP 420
YDTSDAYVFS KESIHSDVKS GVTAKHGDHF HYIGFGELEQ YELDEVANWV KAKGQADELA AALDQEQGKE 490
KPLFDTKKVS RKVTKDGKVG YMPKDGKDY FYARDQLDLT QIAFAEQELM LKDKKKHYRYD IVDTGIEPRL 560
AVDVSSSLPMH AGNATYDTGS SFVIPHIDHI HVVPYSWLTR DQIATIKYVM QHPEVRPDIW SKPGHEESGS 630
VIPNVTPLDK RAGMPNWQII HSAEEVQKAL AEGRFATPDG YIFDPRDVLA KETFWWKDGS FSIPRADGSS 700
LRTINKSDLS QAEWQQAQEL LAKKNAGDAT DTDKPKKQOQ ADKSNENQOQ SEASKEEKE SDDFIDSLPD 770
YGLDRATLED HINQLAQKAN IDPKYLIFQP EGVQFYNNKG ELVTDIKTL QQINP 825

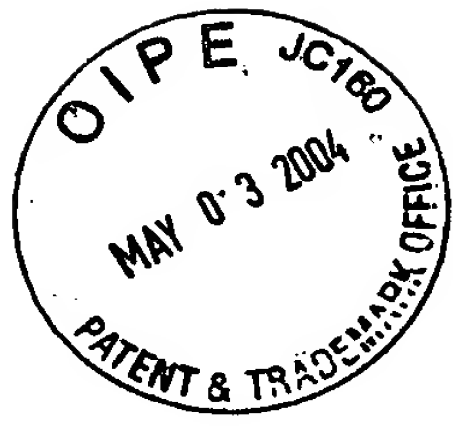


Figure 5B

MKTKKVIILV GLLSSQLTL IACQSRGNGT YPIKTKQSRK GMTSNKIKPI KKSCKTNKTH KGVAGVDFPT 70
DDGFILTKDS KILSKTDQGI VVDHGDGSHF IFYADLKGSP FEYLIPKGAS LAKPAVAQRA ASQGTSKVAD 140
PHHHYEFNPA DIVAEDALGY TVRHDDHFFHY ILKSSLSGQT QAQAKQVATR LPQTSSSLVST ATANGIPGLH 210
FPTSDGFGFN GQIVGVTKD SILVDHDGHL HPISFADLRQ GGWAHVADQY DPAKKAEPKPA ETHQTPPELSE 280
REKEYQEKLA YLAEKLGIDP STIKRVETQD GKLGLEYPHH DHAHVLMLSD IEIGKDIPDP HAIEHARELE 350
KHKVGMDTLR ALGFDEEVIL DIVRTHDAPT PFPSNEKDPN MMKEWLATVI KLDLGSRKDP LQRKGLSLLP 420
NLETLGIGFT PIKDISPVLQ FKKLKQLLMT KTGVTDYRFL DNMPQLEGID ISQNNLKDIS FLSKYKNLTL 490
VAAADNGIED IRPLGQLPNL KFLVLSNNKI SDLSPLASLH QLQELHIDNN QITDLSPVSH KESLTVVDLS 560
RNADVVDLATL QAPKLETLMV NDTKVSHLDF LKNPNLSSL SINRAQLQSL EGIEASSVIV RVEAEGNQIK 630
SLVLKDKQGS LTFLDVTGNQ LTSLEGVNNF TALDILSVSK NQLTNVNLISK PNKTVTNIDI SHNNISLADL 700
KLNEQHIPEA IAKNFFPAVE GSMVNGTAE EKAAMATKAK ESAQEASESH DYNHNHTYED EEGHAHEHRD 770
KDDHDHEHED ENEAKDEQNH AD 792

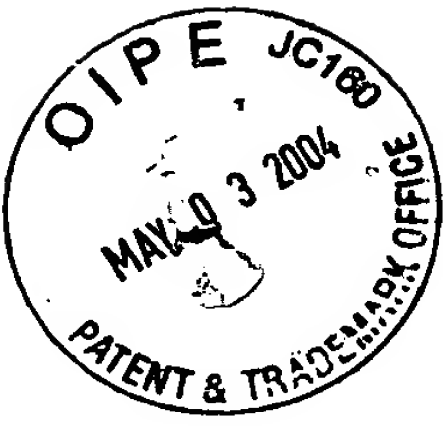


Figure 5C

VKKTYGYIGS VAAILLATHI GSYQLGKHHM GLATKDNQIA YIDDSKGKVK APKTNKTMQ ISAEEGISAE 70
QIVVKITDQG YVTSHGDHYH FYNGKVPYDA IISEELLMTD PNYHFKQSDV INEILDGYVI KVNNGNYVYL 140
KPGSKRKNIR TKQIAEQVA KGTKEAKEKG LAQVAHLSKE EVAAVNEAKR QGRYTTDDGY IFSPTDIIDD 210
LGDAYLVPHG NHYHYIPKID LSPSELAAQ AYWSQKQGRG ARPSDYRPTP APGRRKAPIP DVTPNPGQGH 280
QPDNGGYHPA PPRPNDASQN KHQRDEFKKG TFKELLDQLH RLDLKRYRHE EDGLIFEPTQ VIKSNAFGYV 350
VPHGDHYHII PRSQLSPLEM ELADRYLAGQ TDDNDSGSDH SKPSDKEVTH TFLGHRKAY GKGLDGKPYD 420
TSDAYVFSKE SIHSVDKSGV TAKHGDHFHY IGFELEQYE LDEVANWVKA KGQADELVAA LDQEKGKEKP 490
LFDTKKVSRK VTKDGKVGVI MPKDGKDYFY ARYQLDLTQI AFAEQELMLK DKKHYRYDIV DTGIEPRLAV 560
DVSSLPMHAG NATYDTGSSF VIPHIDHIHV VPYSWLTRNQ IATIKYVMQH PEVRPDVWSK PGHEESGSKI 630
PNVTPLDKRA GMPNWQIIHS AEEVQKALAE GRFAAPDGYI FDPRDVLAKE TFWWKDGSFS IPRADGSSLR 700
TINKSDLSQA EWQQAQELLA KKNAGDATDT DKPEEKQQAD KSNENQQPSE ASKEEKESDD FIDSLPDYGL 770
DRATLEDHIN QLAQKANIDP KYLIFQPEGV QFYKNKNGELV TYDIKTLQOI NP 822